MOBILE TERMINAL HAVING DETACHABLE SUB-DISPLAY UNIT

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from and the benefit of Korean Application No. 10-2009-0013320, filed on Feb. 18, 2009, which is hereby incorporated by reference for all purposes as if fully set forth herein.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] Exemplary embodiments of the present invention relate to a mobile terminal, and more particularly, to a mobile terminal having a detachable sub-display unit.

[0004] 2. Description of the Background

[0005] A mobile terminal is an electronic device which provides users with convenience of mobility along with a rich set of services and features. This convenience has spawned various is mobile terminals to develop effectively executable functions such as writing documents and playing games.

[0006] To promote greater adoption, manufacturers of a mobile terminal effort to develop various executable functions such as digital photography, reception of digital broadcast, playing moving images and Internet web browsing for various services and features in addition to a voice communication function. To address these requirements, a trend exists that a display unit of a mobile terminal is increasing in size to display a status and a menu and conveniently execute such functions by a user.

[0007] However, a typical display unit of the mobile terminal has limited visual portion for using an Internet web browsing function because an insufficient size of a display area of the display unit and not changeable of the size of the display. One area of effort involves a folder unit having an additional display unit that may be rotatably coupled to a body unit of a mobile terminal. However, this approach bears a disadvantage that a second display unit of a folder type is coupled, the size of the mobile terminal becomes larger and convenience of portability of the mobile terminal is reduced.

[0008] Therefore, there is a need for an approach for providing a mobile terminal that may support an Internet web browsing function through a wide display area while enhancing the mobility of the mobile terminal.

SUMMARY OF THE INVENTION

[0009] These and other needs are addressed by the present invention, in which exemplary embodiments of the present invention provide a mobile terminal capable of expanding a display screen area and enhancing mobility of the mobile terminal by coupling a second body unit is having a second display unit to a first body unit having a first display unit by user configuration.

[0010] Additional features of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention.

[0011] Still other aspects, features, and advantages of the present invention are readily apparent from the following detailed description, simply by illustrating a number of particular embodiments and implementations, including the best mode contemplated for carrying out the present invention. The present invention is also capable of other and different embodiments, and its several details can be modified in various obvious respects, all without departing from the spirit and scope of the present invention. Accordingly, the drawing and description are to be regarded as illustrative in nature, and not as restrictive.

[0012] Exemplary embodiments of the present invention disclose a method for expanding a display screen. The method includes receiving a request from a first display unit to expand a display image. The method also includes determining a second display to satisfy the expand request. The method includes outputting whole or in part of the display image using the second display. The first display and the second display are detachably coupled using a magnet.

[0013] Exemplary embodiments of the present invention disclose a mobile terminal having a detachable sub-display unit. The terminal includes a first body unit having a first display unit formed to a portion of the first body unit. The terminal also includes a second body unit having a second display unit formed to a portion of the second body unit. A magnet is formed to a portion of side surface of the first body unit and a portion of side surface of the second body unit, and the second body unit is detachably coupled to the first body unit.

[0014] It is to be understood that both the foregoing general description and the is following detailed description are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification, illustrate exemplary embodiments of the invention, and together with the description serve to explain the principles of the invention.

[0016] FIG. **1** is an exemplary view illustrating a configuration of a mobile terminal having a detachable sub-display unit, according to exemplary embodiments of the present invention.

[0017] FIG. **2** is an exemplary block diagram of a control system of a mobile terminal capable of supporting a detachable sub-display unit that can be used to implement various embodiments of the present invention.

[0018] FIG. **3** shows an exemplary view of a first body unit of the mobile terminal having a detachable sub-display unit of FIG. **1**.

[0019] FIG. **4** shows an exemplary view of a first body unit and a second body unit in a separate state capable of supporting a detachable sub-display unit of FIG. **1**.

[0020] FIG. **5**A, FIG. **5**B and FIG. **5**C are exemplary views showing a first body unit and a second body unit used in a coupled state capable of supporting a detachable sub-display unit of FIG. **1**.

[0021] FIG. **6** is an exemplary view of a mobile terminal having a detachable sub-display unit, according to exemplary embodiments of the present invention.

[0022] FIG. **7**A and FIG. **7**B are exemplary views showing a first body unit and a second body unit used in a coupled state capable of supporting a detachable sub-display unit of FIG. **6**.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

[0023] An apparatus, method, and software for control of a mobile terminal having detachable sub-display unit are